

U. S. Application Serial No. 09/747,971
Amendment dated October 3, 2003
Reply to Office Action **June 3, 2003**

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Canceled)

Claim 2 (Canceled)

Claim 3 (Canceled)

Claim 4 (Canceled)

Claim 5 (Canceled)

Claim 6 (Canceled)

1 Claim 7 (Currently Amended): A work chamfering method using a work holding
2 portion including a first surface and a second surface, the first surface of the work holding portion
3 including a portion having a static friction coefficient greater than 0.1, the method comprising:

4 a first step of holding a work with the work holding portion by contacting ~~each~~ of the first
5 surface of the work holding portion with a first main surface of the work and by contacting and the
6 second surface of the work holding portion with a ~~main surface and second~~ another main surface of
7 the work; and

8 a second step of chamfering the work by using a tool;

9 wherein the work holding portion is adapted to rotate the work around a center of rotation;

10 further wherein the first surface of the work holding portion contacts the first main surface
11 of the work at at least two remote contacting locations on the first main surface, the second surface
12 of the work holding portion contacts the second main surface of the work at at least two remote
13 contacting locations on the second main surface; and

14 further wherein the center of rotation is between the contacting locations; and

15 further wherein the work is ^{thin}plate-like.

1 Claim 8 (Currently Amended): The method according to claim 7, wherein
2 the portion having the static friction coefficient greater than 0.1 is formed at two end portions
3 of the first surface of the work holding portion, and
4 the two end portions contacting the first main surface of the work in the first step.

1 Claim 9 (Currently Amended): The method according to claim 7, wherein the portions
2 having the static friction coefficient ~~grater~~ greater than 0.1 stick into the work in the first step.

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1 Claim 10 (Currently Amended): A work chamfering method using a work holding
2 portion including a first surface and a second surface, the first surface of the work holding portion
3 including a center portion and two end portions, each of the two end portions having a static friction
4 coefficient greater than that of the center portion, the method comprising:

5 a first step of holding a work with the work holding portion by contacting each of the two
6 end portions of the first surface of the work holding portion with a first main surface of the work and
7 by contacting the second surface of the work holding portion with a second ~~another~~ main surface of
8 the work; and

9 a second step of chamfering the work by using a tool;

10 wherein the work holding portion is adapted to rotate the work around a center of rotation;

11 further wherein the first surface of the work holding portion contacts the first main surface
12 of the work at at least two remote contacting locations on the first main surface, the second surface
13 of the work holding portion contacts the second main surface of the work at at least two remote
14 contacting locations on the second main surface; and

15 further wherein the center of rotation is between the contacting locations; and

16 further wherein the work is ^{in a} plate-like.

Claim 11 (Canceled)

1 Claim 12 (Previously Presented): The method according to one of Claims 7 or 10,
2 wherein
3 the tool includes a first grinding stone and a second grinding stone, and
4 the second step includes a sub-step of chamfering one edge of the work with the first grinding
5 stone, a sub-step of moving the tool thickness-wise of the work, and a sub-step of chamfering
6 another edge of the work with the second grinding stone.

1 Claim 13 (Previously Presented): The method according to claim 7, wherein the work is
2 a R-Fe-B alloy containing cobalt at a rate not smaller than 0.3 wt% and not greater than 10 wt%.

1 Claim 14 (Previously Presented): The method according to claim 7, wherein
2 the tool includes a grinding stone, and
3 the grinding stone being rotated at a speed not slower than 2000 rpm and not faster than 5000
4 rpm for chamfering the work in the second step.

1 Claim 15 (Previously Presented): The method according to claim 7, wherein
2 the tool includes a grinding stone, and
3 the grinding stone being rotated at a circumferential speed not slower than 125.6 m/min and
4 not faster than 314 m/min for chamfering the work in the second step.

1 Claim 16 (Currently Amended): A chamfering method for chamfering a rare-earth
2 sintered magnet ~~by using a rotating grinding stone~~, comprising the steps of:
3 applying a grinding stone to the magnet to perform the chamfering;
4 rotating the grinding stone at a speed not slower than 2000 rpm and not faster than 5000 rpm,
5 and
6 controlling the relative speed of the grinding stone with respect to an outer circumferential
7 portion of the rare-earth sintered magnet to be not slower than 0.5 mm/sec and not faster than 7.0
8 mm/sec.

1 Claim 17 (Currently Amended): A chamfering method for chamfering a rare-earth
2 sintered magnet ~~by using a rotating grinding stone~~, comprising the steps of:
3 applying a grinding stone to the magnet to perform the chamfering;
4 rotating the grinding stone at a circumferential speed not slower than 125.6 m/min and not
5 faster than 314 m/min, and
6 controlling the relative speed of the grinding stone with respect to an outer circumferential
7 portion of the rare-earth sintered magnet to be not slower than 0.5 mm/sec and not faster than 7.0
8 mm/sec.

1 Claim 18 (Previously Presented): The method according to claim 16 or 17, wherein the
2 grinding stone includes an abrasive grain having an average diameter not smaller than 100 μ m and

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3 not greater than 270 μm .

1 Claim 19 (Previously Presented): The method according to Claim 16 or 17, further
2 comprising the step of supplying a coolant having a surface tension not smaller than 25 mN/m and
3 not greater than 60 mN/m to a grinding region.

1 Claim 20 (Previously Presented): The method according to claim 16 or 17, wherein the
2 rare-earth sintered magnet contains cobalt at a rate not smaller than 0.3 wt% and not greater than 10
3 wt%.